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Montana. Dept. of
State Lands
State forest land
management plan

MONTANA DEPARTMENT OF STATE LANDS

STATE FOREST LAND MANAGEMENT PLAN

DRAFT ENVIRONMENTAL IMPACT STATEMENT
EXECUTIVE SUMMARY

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State forest land management plan :draft
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DEPARTMENT OF STATE LANDS
FORESTRY DIVISION

MARC RACICOT, GOVERNOR

2705 SPURGIN ROAD

STATE OF MONTANA

(406) 542-4300

MISSOULA, MONTANA 59801-3199

June 19, 1995

525

TO THOSE INTERESTED IN STATE FOREST LAND MANAGEMENT:

Attached is the Executive Summary of the Department of State Lands' Draft Environmental Impact Statement on our proposed State Forest Land Management Plan (SFLMP).

We ask for your feedback to help us decide which strategy to adopt as overall program direction for management of forested state lands. While all your constructive comments are useful, the most helpful feedback is as clear and specific as possible.

We will accept comments on the Draft EIS until Friday, August 4, 1995. A Request for Comments information sheet is included. We will carefully review all the input received to determine what changes or additional assessments are needed. The next step will be release of a supplement to the Draft, or a Final Environmental Impact Statement (FEIS) with a preferred alternative. That step will be based on the direction comments take us.

The Board of Land Commissioners will then review the FEIS and the Department's proposed decision and make a final decision whether to take the proposed action, take an alternative action or take no action.

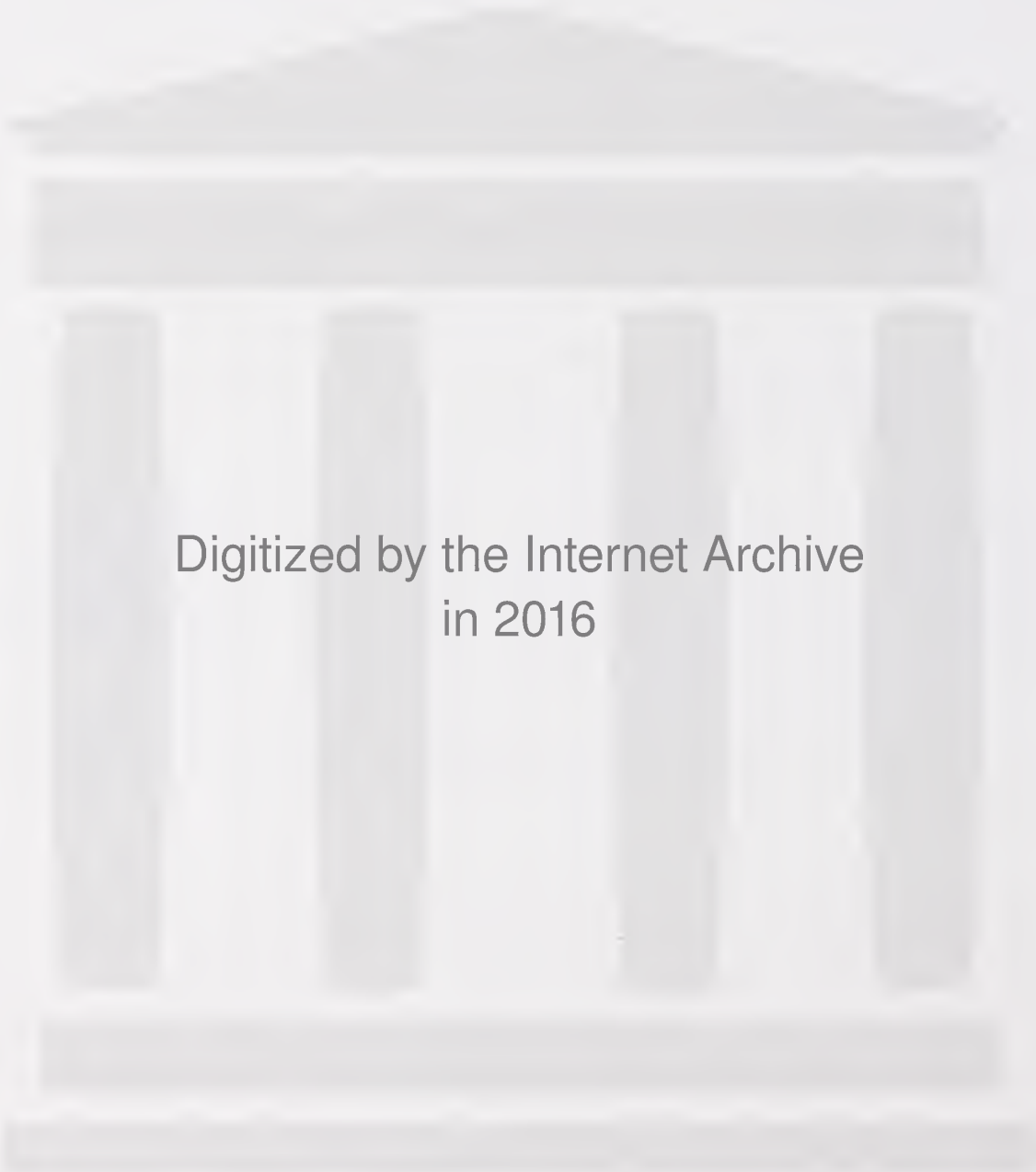
The planning process for the SFLMP was begun in 1990. Most of the primary components were completed before the 1995 Montana Legislature passed House Bill 201 (Ch. 517, Laws of Montana 1995), "An Act Requiring that Annual Sustained Yield Be Used As A Factor in the Management of Forested State Trust Lands" (HB 201). HB 201 directs us to commission a study to determine the annual sustainable yield on forested state lands. The sustained yield study will be initiated by the Department following the Board's final decision on the Management Plan.

Thank you for the constructive role you have already played in this process, and we look forward to receiving your additional comments now.

Sincerely,

DON ARTLEY
STATE FORESTER

DA:kmk
Attachment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REQUEST FOR COMMENTS
Department of State Lands
Forestry Division

Comments on the Draft Environmental Impact Statement (DEIS) for the State Forest Land Management Plan will be accepted for 45 days (through Friday, August 4, 1995). Written comments should be sent to:

Pat Flowers
Department of State Lands, Forestry Division
2705 Spurgin Road
Missoula, MT 59801

Public hearings will be held for receiving comments as follows:

BILLINGS	Montana State University at Billings Student Union Building Lewis & Clark Room July 13, 1995--7:30 p.m.
DILLON	University of Montana-Dillon Lewis and Clark Room July 17, 1995-- 7:30 p.m.
BOZEMAN	Old Courthouse 311 West Main Community Room July 18, 1995--7:30 p.m.
MISSOULA	Holiday Inn 200 South Pattee July 19, 1995--7:30 p.m.
KALISPELL	Outlaw Inn 1701 Highway 93 South July 20, 1995--7:30 p.m.

AN OPEN HOUSE WILL PRECEED EACH HEARING, BEGINNING AT 6 P.M.

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION
2705 Spurgin Road, Missoula, MT 59801
(406) 542-4300

MARC RACICOT
GOVERNOR

STATE OF MONTANA

DIRECTOR'S OFFICE (406) 444-2074
TELEFAX (406) 444-2684

February 23, 1996

525

TO THOSE INTERESTED IN STATE FOREST LAND MANAGEMENT:

I thought it would be helpful to update you on our progress in completing the State Forest Land Management Plan (SFLMP). On June 19, 1995, we released the Draft Environmental Impact Statement (DEIS) for the SFLMP. Since then we have reviewed the 175 comments we received from individuals and organizations. Based on public comments, as well as input from our agency personnel and the Board of Land Commissioners, we have developed another alternative management philosophy. This alternative, known as Omega, is a combination of the previously identified preferred alternatives in the DEIS.

Attached is the text of the Agenda Item that was presented at the February 20, 1996 Land Board meeting. This is an informational item only and includes a brief summary of the Omega alternative. We have drafted a detailed description of the Omega alternative, which is available as a discussion draft paper only. If you would like to receive a copy of this detailed text, please call Kate Kronen of our office at (406) 542-4300 by March 15, 1996, and we will be pleased to send it to you.

Our interdisciplinary team is currently conducting the environmental effects assessment on the Omega alternative, as required by the Montana Environmental Policy Act (75-1-101 et seq., MCA). The results of this assessment, the original six alternatives, and our responses to the public comments received on the DEIS will be published in the Final EIS. Department of Natural Resources and Conservation (formerly DSL*) Director Bud Clinch will then review all of the seven alternatives in the FEIS and choose a final alternative.

We expect the FEIS to be completed by the May 1996 Land Board meeting. The Board of Land Commissioners will also be reviewing the FEIS and will make a final decision on whether to support the final alternative, recommend a different alternative, or take no action.

Thank you for your continued interest in the State Forest Land Management Plan.

Sincerely,

PATRICK J. FLOWERS, Chief
Forest Management Bureau
Trust Land Management Division

PJF:kmk
Enclosure

*Please note that the Department of State Lands was reorganized and merged with the Department of Natural Resources and Conservation on July 1, 1995.

Montana Department of Natural Resources and Conservation
Trust Land Management Division

AGENDA ITEM

STATE FOREST LAND MANAGEMENT PLAN UPDATE

February 20, 1996

Draft Environmental Impact Statement. The State Forest Land Management Plan Draft Environmental Impact Statement (DEIS) was released to the public for review on June 19, 1995. The comment period lasted for 45 days and closed on August 4, 1995.

One hundred seventy-four responses were received in the form of letters, phone calls, and testimony at public hearings. The comments came from 98 individuals, 51 organizations, 12 agencies (federal, state, local government), 8 schools, and 3 legislators.

Each member of the planning team provided written responses to each of the comments relating to their resource area. Those response are currently being compiled for inclusion in the Final Environmental Impact Statement (FEIS).

DNRC Planning Meeting on Alternatives. On November 27 and 28, 1995, a planning meeting was held in Missoula, that included DNRC Director Bud Clinch, the staffers of the Land Board, and both the core and extended planning team from DNRC. The six original alternatives presented in the DEIS were discussed; particular focus was given to the preferred alternatives identified in the DEIS - Beta, Delta and Epsilon.

The following issues were identified as public and staff concerns and were discussed at the November meeting:

- revisit approach to management of threatened and endangered species;
- revisit approach to management of sensitive species;
- clarify how to implement the plan on blocked vs. scattered ownership;
- clarify how data needs would be met and how to do landscape level analysis in a cost-effective manner;
- clarify asset management direction and policy;
- incorporate the Delta market approach into the final alternative;
- clarify timber management philosophy and harvest levels; and
- revisit approach to management of old growth.

The discussion of these issues was framed by the selection criteria already identified in the DEIS:

- Monetary return to the school trust;
- Long term health of our forest resource; and
- Effect on the biological and physical environment. (DEIS, page SUM-20)

In addition, the planning team and the Land Board staffers listed other criteria to be considered in the selection of a final alternative. The alternative must be:

- environmentally sound;
- flexible;
- implementable;
- defensible in court;
- a coherent philosophy of land management and asset management; and
- supportable by the Land Board.

Developing Alternative Omega. Bud Clinch recommended that the planning team sketch out a modified alternative (named "Omega") based on issues and concerns raised at the November planning meeting. The planning team decided to combine elements of Beta, Delta and Epsilon, addressing the specific issues discussed at this meeting. The issues that drove the modification process were threatened and endangered and sensitive species Resource Management Standards, implementing biodiversity on blocked versus scattered ownership, data needs required for landscape level analysis, asset management and timber harvest levels.

Schedule for Completion. Since this modified alternative is within the range of environmental effects presented in the DEIS, it is not necessary to publish a second Draft EIS or a supplement to the existing DEIS. The next document produced will be a Final EIS.

If the planning team continues the analysis and documentation of the Omega alternative without any unanticipated delays, it is expected that a camera-ready copy of the FEIS may be given to the printers by May 1, 1996. The FEIS will then be available for distribution at the Land Board meeting on May 20, 1996.

A final alternative from the FEIS will be selected by DNRC Director Bud Clinch no earlier than the requisite 15 day waiting period after the release of the FEIS [ARM 26.2.652(5)]. A Record of Decision will then be published. The Record of Decision will be a stand-alone document, at that point referred to as the "Long Range Plan," and will include the rationale for the selection of the final alternative, as well as a detailed discussion of the philosophy and Resource Management Standards for that alternative.

SUMMARY OF OMEGA ALTERNATIVE

Fiduciary Responsibility. Our premise is that the best way to produce long-term income for the trust is to manage intensively for healthy and biologically diverse forests. Our understanding is that a diverse forest is a stable forest that will produce the most reliable and highest long-term revenue stream. Healthy and biologically diverse forests would provide for sustained income from both timber and a variety of other potential uses. They will help ensure stable short-term trust income while maintaining management options to respond to changes in future resource markets.

Timber Harvest. In the foreseeable future timber management will continue to be our primary source of revenue and primary tool for achieving biodiversity objectives. By promoting biodiversity we will protect the future income generating capacity of the land by maintaining or restoring healthy and productive ecosystems. The relative market value of timber, the existence of a manufacturing and marketing infrastructure, and our own technical expertise and long experience give us an advantage for using timber management as the primary tool to achieve biologically diverse forests.

> *HB 201*. We would manage so as to meet annual sustained yield levels identified in the study mandated by HB 201 (MCA 77-5-221-223). That study will incorporate both the philosophy and standards of this alternative.

Other Income Opportunities. We would pursue other income opportunities as guided by changing markets for new and traditional uses. These uses may replace timber production when their revenue exceeds long-term timber production revenue potential. Where we pursue non-timber uses, we may not comply with the biodiversity elements of this alternative. Opportunities might include development rights on a parcel of waterfront land with high recreation potential; homesite development; leasing an entire drainage with substantial low-elevation old growth to a coalition of environmental groups; or a land exchange program designed to increase the average income-producing value of our holdings. However, because we expect these other income opportunities to occur on a minor amount of the forest acreage, these uses would not compromise the overall fundamental premise of managing for biodiversity.

Managing for Biodiversity and Forest Health. We would take a 'coarse filter' approach to biodiversity by favoring an appropriate mix of stand structures and compositions on state lands. A 'coarse filter' approach "assumes that if landscape patterns and process (similar to those species evolved with) are maintained, then the full complement of species will persist and biodiversity will be maintained" (Jensen and Everett, 1993 [1]). Because we cannot assure that the 'coarse filter' approach will adequately address the full range of biodiversity, we would also employ a 'fine filter' approach for threatened, endangered, and sensitive species. The fine filter approach focuses on single species' habitat requirements.

Managing for Biodiversity on Blocked Ownership. Within areas of large, blocked ownership, we would manage for a desired future condition characterized by the proportion and distribution of forest types and structures historically present on the landscape. Our typical analysis unit would be a third order drainage wherein we would focus on maintaining or restoring the forest conditions that would have naturally been present given topographic, edaphic and climatic characteristics of the area. Timber harvests would be designed to promote long-term diversity and an appropriate representation of forest conditions across the landscape.

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[1] Jensen, M.E. and R. Everett. 1993. An overview of ecosystem management principles. In: Eastside Forest Ecosystem Health Assessment. Vol II. Ecosystem Management: Principles and Applications. M.E. Jensen and P.S. Bourgeron, editors. USDA, National Forest System, Forest Service Research, pp. 9-18.

Managing for Biodiversity on Scattered Ownership. On areas of smaller, and/or scattered ownership we would not frequently be in a position to provide for appropriate representation of forest conditions across the broader landscape level. Our activities would still be based on restoring a semblance of historic conditions within our ownership. We would manage our lands to contribute to the diversity of forest conditions over the larger landscape. However, we would not necessarily maintain rare forest structures solely to mitigate for their absence on adjacent land managed by others.

MONTANA DEPARTMENT OF STATE LANDS

STATE FOREST LAND MANAGEMENT PLAN

DRAFT ENVIRONMENTAL IMPACT STATEMENT EXECUTIVE SUMMARY

JUNE 19, 1995

WU 95-1877

EXECUTIVE SUMMARY

THE PROPOSED PLAN

The Forestry Division of the Montana Department of State Lands proposes to implement a State Forest Land Management Plan to provide field personnel with consistent policy, direction, and guidance for the management of state forested lands. The plan will apply to the forested lands portion of the total 5.2 million acres of school trust lands administered by the Department of State Lands. The forested land portion totals 662 thousand acres.

LEGAL AND ADMINISTRATIVE FRAMEWORK

LEGAL

Federal lands, called trust lands, were granted to the state when Montana was admitted into the Union. Montana's Constitution requires that trust lands be managed to provide revenue to support schools. The courts have consistently upheld this requirement.

However, trust land managers have some discretion in meeting the broad trust management goal. That discretion is necessary because managers are required to not only satisfy trust principles, but also to comply with other constitutional requirements, and state and federal statutes. Specifically, Montana's Constitution allows that it is within the discretion of trust land managers to manage for long-term income, even at the expense of immediate or short term returns.

ADMINISTRATIVE

State trust lands are legally assigned to one of four "highest and best use" categories: Forest, Grazing, Agricultural, or Other. The "Other" category includes such things as administrative sites and would not be affected by the proposed plan. The Forest Management Bureau of the Forestry Division directs the management of classified Forest lands and has assumed lead responsibility for the State Forest Land Management Plan. By agreement with the State Lands Administration Division, the Bureau is also responsible for those portions of Grazing and Agricultural lands on which forestry expertise is appropriate. The proposed plan would address only responsibilities of the Forest Management Bureau.

Several other government agencies and landowners could be affected by implementation of the proposed plan. For example, the Montana Department of Fish, Wildlife and Parks is responsible for managing fish and wildlife populations within the state and consequently must collaborate with DSL's management. Large private industrial forest land owners could also be affected by the proposed plan. There could be changes in the state's policy regarding granting rights-of-way, managing cumulative environmental impacts, and otherwise coordinating with adjoining land-owners. The timber industry could be affected by changes in the timber supply from state lands.

SCOPE OF THE EIS

This is a programmatic EIS. That means that it deals with general policies and guidelines for carrying out our Department mission. It does not address site-specific issues nor does it make specific land use allocations. No decisions regarding actual land use allocations or individual projects are being made at this time. However, this EIS and the selected Forest Land Management Plan will provide a guiding framework for proposing and analyzing site-specific projects in the future.

ISSUES THAT WILL AFFECT SELECTION OF A PLAN

We identified two major sets of issues that will affect selection of a State Forest Land Management Plan: (1) those raised by our own employees, and (2) those raised by the public and other agencies. The issues raised by our employees can be found in the Project Record. They include questions about department management framework and policies, resource management, resource allocation, resource valuation, marketing, managing across ownerships, and categorical exclusions that our employees wanted the State Forest Land Management Plan to answer. Many of these questions will be answered by the plan or EIS, while others will be answered outside the plan, during implementation training and elsewhere.

ISSUES RAISED BY THE PUBLIC AND OTHER AGENCIES

The following thirteen issues emerged from responses to a public mailing, and were affirmed by a series of public meetings.

1. ACCESS: Public concerns include the public's right to use state forest lands, the need to maintain or develop rights-of-way across private and federal ownerships, and the importance of developing permanent, legal access to all state tracts.

2. ROAD MANAGEMENT AND MAINTENANCE: The extent of forest road development has generated considerable public discussion. Road development may affect wildlife security and adversely impact water quality. However, roads are viewed by some as an asset to forest development, protection, and recreation access.

3. COORDINATION AND COOPERATION: There is general agreement that increased coordination and cooperation among adjacent landowners would be beneficial and efficient. Activities on state lands are not always compatible with adjacent landowner's management. Effects of adjacent landowner's activities may impose constraints on management activities on state lands.

4. WILDLIFE: There is increasing public sentiment to recognize the importance of wildlife values. Big game hunting contributes an increasing percentage of the state's economic base. Non-game species are an integral part of forest ecosystems. Many people place a very high value on preserving wildlife habitat, while others believe that wildlife values may be enhanced, or at least maintained, through proper management and other commodity uses.

5. WATERSHED MANAGEMENT: Many people believe that forest practices should be conducted in a manner that protects water quality. However, there is disagreement over what practices constitute an adequate level of protection.

6. WEED MANAGEMENT: The spread of noxious weeds has become an important statewide issue. DSL must comply with weed management laws. Some people believe DSL should share the cost of weed control and suggest that a variety of uses could share the cost of control. Some people are concerned regarding the use of chemicals to control weeds.

7. GRAZING: Livestock grazing is a traditional use of state land that is becoming controversial. Forest grazing can impact water quality, riparian habitat, and understory vegetation. Some people believe that DSL should manage livestock grazing more closely. Others believe that grazing is a valuable revenue-producing use with which other less productive uses should not interfere.

8. TIMBER MANAGEMENT: There are strong sentiments both for increasing and for reducing the amount of timber to be harvested from state lands. Some argue that harvesting timber at the maximum sustainable level would optimize trust revenue. Others believe that reducing timber harvests would benefit ecosystem health and provide higher quality timber for future harvest when timber values are higher.

9. CLEARCUTTING: There is strong sentiment for minimizing or eliminating the use of clearcutting. However, some people believe clearcutting, appropriately used, is a beneficial and cost-efficient silvicultural tool.

10. ECOSYSTEM INTEGRITY: There is public concern regarding the impact of timber harvests on overall ecosystem health. Some people believe protection of old growth forests and maintenance of natural forest characteristics should be a priority. Others believe old growth forests are biologically unhealthy and individual dead or dying trees should be harvested to use the resource before it is wasted.

11. TRUST MANAGEMENT POLICY: Some people believe environmental protection measures should not interfere with trust revenue production. Others believe that environmental protection must come before trust income.

12. PUBLIC INVOLVEMENT AND PLANNING: Some people believe that a sincere and aggressive public involvement effort would prevent domination by special interest and political pressures. Others believe that excessive public involvement may lead to unwise or political decisions that are contrary to DSL's management goals and trust responsibilities.

13. RECREATIONAL OPPORTUNITIES: There is broad public interest in maintaining a variety of recreational opportunities on state land, but disagreement about amounts and types of fees to be charged, and extent and types of activities that should be promoted.

THE ALTERNATIVES

We developed six alternative plans through a process of internal discussion, public discussion, development of preliminary concepts, and a rigorous screening process. The narratives below explain the core concepts of each alternative. Each approach represents differing beliefs and assumptions as to the best way to meet the trust mandate.

ALPHA

This is the way we do things now, and it is the path we would continue to follow in the absence of major changes in legislative or policy direction. We would provide income to the trust by marketing a sustainable harvest of forest products while allowing other revenue-generating uses, such as grazing and cabin-site leasing, in response to applications initiated by the public.

We would meet legal and/or generally accepted standards of environmental protection. Existing standards and guidelines, and all other current plans, would remain in effect. Standards and guidelines would be modified or expanded when conditions warranted such action.

Each land office would have an annual timber sale target. Proposals for dominant land uses other than timber management would normally be initiated by the public or other agencies. We would respond to special use proposals as we had time, but our highest priorities would be activities that supported the timber program.

This time allocation would result in the continuation of timber management as our dominant land use, with other uses developing primarily in response to outside demand.

BETA

Under Beta, we assume that intensive management would promote healthy and productive ecosystems while yielding greater long-term income than natural processes alone would produce. We would promote an ecologically diverse, resilient, and productive forest. Managing for diversity of stand structures would provide a sustainable yield of timber and other outputs whose cumulative value would exceed that from timber alone.

Timber harvest would play the dual role of directly generating revenue, as in the past, while also serving as our primary tool for producing the desired range of stand structures and patterns. We would also use other measures to enhance environmental quality. Because diverse wildlife habitat would be supported by managing for a variety of forest conditions, we would de-emphasize standards for individual species.

Each land office would have annual goals which would include a timber sale target as well as goals for marketing other uses. Many of these goals would include the use of timber harvest as a tool. For example, forests dominated by immature second-growth timber might be thinned to produce small logs and pulpwood, while reducing stand stress levels and hastening development of old-growth features and high-value forest products. In areas with considerable old growth, some stands might be managed on long rotations to perpetuate old growth, while others might be managed on shorter rotations to produce high yields of timber.

Other goals would have us pursue income opportunities from old growth and other distinctive features without using timber harvest. These activities could include fee-based wildlife viewing, environmentally-friendly recreation developments, conservation easements and leases, and educational programs.

GAMMA

An underlying assumption of Gamma is that growing population and a fixed land base will cause the value of forested lands to be driven high enough that a diverse array of small annual yields from natural ecosystems will produce the greatest possible long term average trust income. Current uncertainty in the politics of natural resource allocation makes it smarter for us to preserve the widest and richest possible array of future options, rather than maximize revenue in the short run at the risk of significantly limiting future options.

Our program direction would emphasize restoring and maintaining natural ecosystems under the assumption that we can do little to improve on nature's ability to sustain a productive and healthy ecosystem. We would expect relatively small marketable yields each year, but would expect the quality and diversity of marketable opportunities to grow rather than diminish with passing time.

In most cases, the dominant land uses would be activities that maintained or enhanced undeveloped forest conditions. Program goals might include a target income from dispersed recreation fees or leases, development of fee-access wildlife observation blinds, or timber harvest on some number of acres to simulate the effects of wildfire where fire protection had altered natural conditions.

We would emphasize activities that didn't substantially change the appearance or function of the naturally occurring forest, such as hiking and wildlife watching, and campgrounds that affected only small areas while serving as a base for other activities. We would use timber harvest as a tool to approximate naturally occurring events such as fires, or to rehabilitate areas that had been altered in the past and were in poor condition. Low-impact harvesting could be used as an income source when it was clearly compatible with natural succession.

On lands that are already developed, or surrounded by development to the point

that restoration of natural conditions would be impractical, the dominant use would be that which best supported this management philosophy.

DELTA

Under this alternative, we assume that the greatest long-term average return would come from competitively marketing our resources, focusing on flexibility, creativity, and attention to financial rate of return. Forest land management would be strongly influenced by market conditions.

We would inventory potential money-making opportunities and use financial analysis as the first indicator for initiation and timing of projects. Our decisions would balance our response to changing market conditions with maintaining technical adaptability, so that we would not abruptly drop one activity to begin another. However, we would be strongly influenced by market conditions such as cycles in demand and price for commodities, or unique recreational demands. Dominant land uses could shift with changing market trends, but we would not normally make disruptive changes in response to temporary market variations. This approach would emphasize a high degree of flexibility in choosing dominant land uses.

From our inventory of potential money-making opportunities, we would list those that could be marketed and which would not have clearly unacceptable environmental impacts. Opportunities under Delta might include exclusive timber management rights for a specified term on certain blocks of our ownership; development rights on a parcel of waterfront land with high recreation potential; leasing an entire drainage with substantial low-elevation old growth to a coalition of environmental groups; or a land exchange program designed to increase the average income-producing value of our holdings.

Lands identified for high recreation and wildlife values could be marketed by several different methods: (1) competitive bidding, (2) soliciting Requests For Proposal, (3) issuing licenses that set fees as a percentage of gross profit, or (4) leasing general recreation rights based on outside requests. We would attempt to provide resident and non-resident recreational opportunities, realizing that the highest revenue potential probably would come from developments that would attract non-residents. Other recreational opportunities on non-leased or non-licensed sites would remain available to the general public at a minimal fee.

If a particular tract did not appear to have any potential that could be readily marketed by DSL, it could become a candidate for exchange, or simply be held for the future with little or no current management. We would also conduct an active land exchange program to consolidate our holdings into blocks if we could manage them more efficiently than scattered parcels.

We would meet the minimum acceptable standards of environmental protection. In cases where the standards allowed discretion, we would accept some adverse environmental effects in order to earn larger long-term monetary returns to the school trust. In cases of uncertain environmental impacts, we would take some risk in favor of earning greater monetary return.

EPSILON

Under this program, we assume that the relative market value of timber, the existence of a manufacturing and marketing infrastructure, and our own technical expertise and long experience give us a natural advantage that makes timber management the best way to maximize long-term average trust income. Consequently, we would formalize timber marketing as our primary business. Our main program goal would be to offer the harvest level and mix of sales most appropriate for current market conditions and long-term sustainable yield.

Other revenue-generating activities, such as grazing and cabin-site leasing, could be allowed in response to applications initiated by the public as long as they did not

substantially interfere with our timber marketing program. If a proposal came to us, we would, as time permitted, consider its environmental impacts and revenue potential, as compared to timber harvest on the same lands. If the proposal clearly offered better long-term prospects than timber management on those lands, we would grant approval.

Lands that were not suitable for profitable timber management would either be managed for the next most profitable use that did not conflict with present or future timber harvest, be considered for exchange, or be held for the future with only minimal management.

We would meet the minimum acceptable standards of environmental protection. In cases where the standards allowed discretion, we would accept some adverse environmental effects in order to earn larger long-term monetary returns to the school trust. In cases of uncertain environmental impacts, we would take some risk in favor of earning greater monetary return.

ZETA

Under this program, we assume that changing social values, an increasing demand for quality outdoor experiences, and our status as a large forest land manager put us in a unique position to maximize long-term average trust revenue by specializing in marketing outdoor recreation and wildlife related opportunities. Our program direction would emphasize wildlife and recreation management first, and other activities to the degree that they did not conflict with, or would enhance, these primary resource values.

We would inventory opportunities for making money through emphasis on recreation and/or wildlife management. Under this strategy, we would concentrate our efforts on initiating and actively marketing proposals that would provide income from wildlife and recreation management.

Lands identified for high recreation and wildlife values could be marketed by several different methods: (1) competitive bidding, (2) soliciting Requests For Proposal, (3) issuing licenses setting fees as a percentage of gross profit, or (4) leasing recreation rights based on outside requests. We would attempt to provide resident and non-resident recreational opportunities, realizing that the highest revenue potential may come from developments that would attract non-residents. Other recreational opportunities on non-leased or non-licensed sites would remain available to the general public at a minimal fee.

Proposals from outside the agency could displace wildlife-recreation use, but their revenue potential and environmental impacts would have to be more favorable than those expected from recreation or wildlife management.

Lands that did not have marketable wildlife or recreation potential could be managed for the next most profitable use as long as doing so would not diminish wildlife or recreation opportunities for the future. Management for other uses would be done in ways that maintained or enhanced future wildlife/recreation potential. For example, grazing leases could pay special attention to protecting riparian areas, prairie dog communities, or access roads.

We would exceed minimum environmental protection standards only when doing so would enhance wildlife and recreation economic values.

SUMMARY OF ALTERNATIVES

The table on the next pages summarizes the ways each alternative would respond to issues raised by concerned citizens.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
WILDLIFE There is increasing public sentiment to recognize the importance of wildlife values. Big game hunting contributes an increasing percentage of the state's economic base. Non-game species are an integral part of forest ecosystems. Many people place a very high priority on preserving wildlife habitat, and believe that commodity production degrades habitat quality. Others believe that wildlife values may be enhanced, or at least maintained, through proper management and other commodity uses.	When considering projects, our primary wildlife emphasis would be on protection of big game habitat. When big game needs were not compatible with other management objectives, conflicts would be addressed on a case-by-case basis. We would adopt federal T&E species standards, or develop our own guidelines, to support recovery of threatened and endangered species to the extent that doing so would not conflict with our overriding trust management policy. Habitat for non-game species would only be emphasized when it became an issue on a specific project. Nominal income would be generated from wildlife management through outfitting, hunting or fishing.	When considering projects, we would manage wildlife habitats by promoting a diversity of stand structures and patterns. We would rely on this to provide good habitat for native wildlife populations. Big game habitat would be de-emphasized. Timber harvests would be used as a tool to help develop forest diversity. We would adopt federal T&E species standards, or develop our own standards of equivalent conservation effect through consultation with U.S. Fish and Wildlife Service, to promote recovery of threatened and endangered species. Non-game species would be protected by promoting a diversity of forest conditions. Income to the trust from wildlife would be generated from outfitting, hunting, and fishing.	We would manage wildlife habitats by promoting natural ecosystem characteristics. We would emphasize habitat for plant and wildlife species such as interior forest dwelling or old growth-dependent species that are better indicators of overall forest health than big game species. Habitat for T&E species would be managed in ways that would most likely result in species recovery. Income to the trust from wildlife would be generated from outfitting, hunting, fishing, and licensing of non-consumptive wildlife activities such as bird watching or wildlife viewing areas.	Wildlife and its habitat would be considered a resource with income potential. Management activities would be modified to provide an appropriate level of protection to wildlife habitat based on the site-specific potential for income production. Habitat for T&E species would be managed to standards that avoided violation of the Endangered Species Act. Management for non-game species would be limited to those species or sites that represent opportunities to provide income. Income to the trust from wildlife could be generated from exclusive hunting leases, general hunting and fishing, or leases and licenses protecting wildlife values.	Wildlife habitat would be considered secondary to timber management. The level of wildlife habitat protection would be reduced if protection measures would substantially detract from timber management objectives. Habitat for T&E species would be managed to standards that avoided violations of the Endangered Species Act. Nominal income to the trust would be generated from wildlife management through outfitting, and hunting or fishing.	Wildlife and its habitat would be a primary income producing resource. On suitable lands, we would design habitat manipulations to improve income opportunities. We would adopt federal T&E species standards, or develop our own guidelines, to support recovery of threatened and endangered species to the extent that doing so would not conflict with our overriding trust management policy. Non-game species would be managed to maintain viable populations and to provide a variety of wildlife related recreational opportunities. Income could be generated from activities such as exclusive hunting leases, wildlife viewing sites, or fish pond development, as well as from general recreation uses.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
WATERSHED MANAGEMENT Forest lands generally have high values as watersheds. Timber harvests, livestock grazing, road construction and other land-disturbing activities can impact these values. Many people believe that forest practices should be conducted in a manner that protects water quality. However, there is disagreement over what practices constitute an adequate level of protection. Some people believe that management practices in riparian areas should have more stringent requirements.	We would rely on Forestry Best Management Practices, State Water Quality laws, the SMZ law and our own RMS's to provide watershed protection. BMPs would be minimum standards. Effectiveness & implementation of BMPs would be monitored through contract administration and on-site evaluation. Mitigation of cumulative watershed effects would be emphasized, and appropriate constraints would be applied to our activities.	We would rely on Forestry Best Management Practices, State Water Quality laws, the SMZ law and our own RMS's to provide watershed protection. BMPs would be minimum standards. Effectiveness & implementation of BMPs would be monitored through contract administration and on-site evaluation. We would pursue an aggressive program of water quality rehabilitation to mitigate the effects of past activities. Mitigation of cumulative watershed effects would be emphasized and appropriate constraints would be applied to our activities. Resource management standards would give special emphasis to protection of riparian zones.	We would adopt a standard of no net impact to sensitive watersheds and important fisheries. In most cases our practices would exceed BMPs, Water Quality laws and SMZ regulations. Effectiveness & implementation of BMPs would be monitored through contract administration and on-site evaluation. We would pursue an aggressive program of water quality rehabilitation to mitigate the effects of past activities. Mitigation of cumulative watershed effects would be emphasized, and appropriate constraints would be applied to our activities. Resource management standards would give special emphasis to protection of riparian zones.	We would rely on Forestry Best Management Practices, State Water Quality laws, the SMZ law and our own RMS's to provide watershed protection. BMPs would be minimum standards. Effectiveness and implementation of BMPs would be monitored through contract administration and on-site sale evaluation. Mitigation of cumulative watershed effects would be emphasized, and appropriate constraints would be applied to our activities. We would do watershed rehabilitation if it would increase income opportunities.	We would rely on Forestry Best Management Practices, State Water Quality laws, the SMZ law and our own RMS's to provide watershed protection. BMPs would be minimum standards. Effectiveness and implementation of BMPs would be monitored through contract administration and on-site sale evaluation. Mitigation of cumulative watershed effects would be emphasized, and appropriate constraints would be applied to our activities. We would do watershed rehabilitation if it would increase timber opportunities.	We would rely on Forestry Best Management Practices, State Water Quality laws, the SMZ law and our own RMS's to provide watershed protection. BMPs would be minimum standards. Effectiveness and implementation of BMPs would be monitored through contract administration and on-site sale evaluation. We would pursue an aggressive water quality and fisheries rehabilitation program to mitigate the effects of past activities in watersheds with high fisheries values. Mitigation of cumulative watershed effects would be emphasized, and appropriate constraints would be applied to our activities.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
WEED MANAGEMENT The spread of noxious weeds has become an important issue statewide. Weeds established on state lands can spread to other ownerships. Livestock use, recreational activities and logging can distribute weeds. DSL must comply with weed management laws. Some people believe DSL should share the cost of weed control and suggest that a variety of uses could share the cost of control. There is some concern regarding the use of chemicals to control weeds.	We would comply with weed management laws through agreements with county weed boards. Stipulations to limit weed distribution would be included in all contracts. A portion of recreational fees and forest improvement fees would be used for weed control. Users would be responsible for weed control related to their leased or licensed use. Herbicide spraying would be used as a weed control measure when appropriate.	We would take a more active approach to weed control than in the past. Stipulations to limit weed distribution would be included in all contracts. A portion of recreational fees and forest improvement fees would be used for weed control. Users would be responsible for weed control related to their leased or licensed use. Herbicide spraying would be used as an interim practice, but long range emphasis would be on integrated pest management.	We would take a more active approach to weed control than in the past. Restrictions or mitigations would be placed on most activities to prevent or control noxious weeds. A portion of fees from most uses would be dedicated to weed control programs. Users would be responsible for weed control related to their leased or licensed use. Natural and biological weed control measures would be favored. Herbicides would be used only for spot spraying of new infestations.	We would take a more active approach to weed control than in the past. Stipulations to limit weed distribution would be included in contracts. A portion of fees from most uses would be dedicated to weed control programs. Users would be responsible for weed control related to their leased or licensed use. Herbicide spraying would be used for weed control when it was the most cost effective method for protecting marketable values. However, it would be part of an integrated pest management program.	We would comply with weed management laws through agreements with the County Weed Boards. Stipulations to limit weed distribution would be included in timber sale agreements. A portion of fees from most uses would be dedicated to weed control programs. Users would be responsible for weed control related to their leased or licensed use. Herbicide spraying would be used for weed control when it was the most cost effective method for protecting marketable values. However, it would be part of an integrated pest management program.	We would comply with weed management laws through agreements with the County Weed Boards. Stipulations to limit weed distribution would be included in contracts. A portion of fees from most uses would be dedicated to weed control programs. Users would be responsible for weed control related to their leased or licensed use. Herbicide spraying would be used for weed control when its net effect was to enhance income potential from recreation and wildlife management. Our overall emphasis would be on integrated pest management.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
GRAZING Livestock grazing is a traditional use that is becoming controversial. Forest grazing can impact water quality, riparian habitat and understory vegetation. Some people believe that livestock grazing should be more closely managed by DSL. Others believe that livestock grazing is a historic and valuable revenue-producing use with which other less productive uses should not interfere. Some forested state lands are classified as principally valuable for grazing.	Lessees on forested classified grazing lands would be responsible for management, type of livestock, season of use, and animal distribution. They would be required to develop and maintain improvements. Grazing licenses, on classified forest lands, would specify AUMs, and season of use. Licenses could be modified to accommodate timber management activities. Carrying capacities would be based on potential forage production. Lease and license administration and monitoring would have low priority. We would not routinely monitor the watershed effects from livestock grazing.	Grazing leases and licenses would be more closely monitored to evaluate impacts to forest ecosystems. The condition of riparian areas would serve as a primary indicator of management impacts. Restrictions would be placed on grazing practices to promote a diverse ecosystem and protect watersheds. Lessees/licensees would be required to develop and maintain improvements. Grazing leases/licenses on classified forest lands would specify animal type, AUMs, and season of use. Leases/ licenses could be modified to accommodate other management activities.	Grazing of rangeland areas intermingled with forest would only be allowed when not damaging to plant communities, water quality and riparian zones. The condition of riparian zones would be used as a primary indicator of management impacts. Some grazing licenses could be suspended to allow range recovery and forest regeneration. Lessees/licensees would be required to develop and maintain improvements. Grazing leases/licenses on classified forest lands would specify animal type, AUMs, and season of use. Leases/ licenses could be modified to accommodate other management activities.	Livestock grazing would be promoted on sites where it was a primary income source, and suspended or restricted in areas where it would adversely affect higher income uses. The condition of riparian zones would be used as a primary indicator of management impacts. Grazing leases/licenses on classified forest lands would specify animal type, AUMs, and season of use. Leases/ licenses could be modified to accommodate other management activities.	Grazing use would be secondary to timber management. Where compatible, grazing and timber would both be managed. Grazing could be suspended or restricted in areas where it impacted timber production (i.e. regeneration sites). Riparian areas would be managed more intensely due to watershed concerns and the potential to limit timber management. The condition of riparian zones would be used as a primary indicator of management impacts. Grazing leases/licenses on classified forest lands would specify animal type, AUMs, and season of use. Leases/ licenses could be modified to accommodate timber management activities.	Forested rangeland would be managed more intensively so as to enhance wildlife and recreation income generating opportunities. Grazing leases and licenses on classified forest lands would specify animal type, AUMs, and season of use. Contracts could be modified and grazing practices could be restricted to promote wildlife values and recreational opportunities. Lessees and licensees would be required to develop and maintain improvements. The condition of riparian zones would be used as a primary indicator of management impacts.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
TIMBER MANAGEMENT There are strong sentiments both for increasing and for reducing the amount of timber to be harvested from state lands.Some argue that harvesting timber at the maximum sustainable level would optimize trust revenue. They believe a steady, sustainable timber harvest from state lands is healthy for the forest. Others believe that reducing timber harvests would benefit ecosystem health, other resources and provide higher quality timber for future harvest when real timber values are much higher. Some people believe that dead and dying timber should be harvested so that the resource is not wasted. Others believe that dead & downed material is important for the ecosystem and should remain unharvested.	We would try to offer a steady and sustainable supply of timber from forested state lands. Constraints to our annual harvest would result from T&E species requirements, SMZ's, watershed concerns and cumulative effects considerations. Salvage of dead and dying material would be pursued as market conditions and staffing allowed.	Timber would be managed both for income and as a tool to promote biological diversity. We would try to offer a steady and sustainable supply of timber from forested state lands. Salvage of dead and dying material would occur where economically feasible, only after sufficient material was retained to maintain biological diversity.	Timber harvest may be used as a tool to help restore and maintain ecosystem integrity, but we would not attempt to offer a steady timber harvest target each year. The concept of sustained yield would be modified to include ecosystem components such as fungi, rots, dead downed debris, micro-organisms and fauna. Sustainability of ecological features, processes, plant and animal species, and overall environmental quality would be emphasized, rather than a sustained supply of timber.	Timber harvest would be an important contributor to trust income, but not necessarily the primary one. We would not attempt to offer a steady annual harvest, but rather to take advantage of market conditions. When market conditions were favorable for a given product, we would offer higher volumes for sale. Lands would be managed for sustainable yield over the long term. Maximum harvests would be constrained by marketing of other forest uses; protection of watershed values, wildlife, and T&E species; and by cumulative effects. Salvage of dead and dying material would be pursued as market conditions and staffing allowed.	We would try to offer the highest sustainable annual timber supply from forested state lands. Constraints to our annual harvest would result from T&E species requirements, SMZ's, watershed concerns and cumulative effects considerations. Salvage of dead and dying material would be emphasized as market conditions and staffing allowed.	Timber management would be secondary to management for wildlife and recreation. Timber harvests would be used as a tool to improve wildlife habitat or where recreational values are limited. We would not offer a steady annual supply of timber from forested state lands. Salvage of dead and dying material would be conducted where compatible with recreational needs and when economically feasible.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
CLEARCUTTING There is strong sentiment for minimizing or eliminating the use of clearcutting. Some people oppose all forms of even-aged management. They see clearcutting as a wasteful, inappropriate practice that benefits only timber production, at an unacceptable cost to other resources. Many people oppose clearcutting simply because of its appearance. Other people believe clearcutting, appropriately used, is a beneficial and cost efficient silvicultural tool. They think it would be a mistake to reject the practice altogether because it has been overused and abused in the past.	Even aged management, including clearcutting, would be used where appropriate. There would be no formal policy favoring even aged or uneven aged management. Scenic values would be considered in harvest design.	Timber harvests would be designed to more closely simulate the effects of natural disturbances. This could include some clearcutting; but even aged management techniques would generally be modified to retain some snags and live trees. Scenic values would be considered in harvest design.	Even aged management would be used only where it would enhance biodiversity and was consistent with the landscape level biodiversity plan. Clearcutting would be avoided. Scenic values would be considered in harvest design.	Even aged management, including some clearcutting, would be used. There would be no formal policy favoring even aged or uneven aged management.	Even aged management, including some clearcutting, would be used. There would be no formal policy favoring even aged or uneven aged management.	Clearcutting would be used on sites where it was compatible with wildlife needs. Clearcuts would generally be used to create small openings for big game forage. Clearcutting would also be used to accomplish silvicultural objectives on tracts that had little recreational value. Scenic values would be considered in harvest design.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
ECOSYSTEM INTEGRITY There is public concern regarding the impacts of timber harvests on overall ecosystem health. Some people believe that traditional timber harvests alter the function of forest ecosystems, decrease biological diversity and reduces future forests productivity. They believe protection of old growth forests and maintenance of natural forest characteristics should be a priority. Others believe that old growth forests are biologically unhealthy and individual dead or dying trees should be harvested to use the resource before it is wasted.	Some practices undertaken to maintain long-term site productivity and stand health may also promote biodiversity; however, we would not normally engage in practices with the expressed purpose of promoting biodiversity. Retention of old growth would be addressed on a case-by-case basis where it is an issue.	We would promote biodiversity by favoring diversity of stand structures and patterns. We would use landscape evaluations to identify opportunities for meeting this objective while also generating sustained levels of trust revenue. We would attempt cooperation with other land owners through ecosystem management plans that promoted biodiversity across landscapes. Old growth would be maintained or restored in at least half the amounts that would be expected to occur on state lands under natural processes in similar forest types.	Forested state lands would be managed to maintain and restore natural ecological characteristics. Activities would be guided by landscape-level biodiversity plans. We would attempt cooperation with other land owners through ecosystem management plans that promoted biodiversity across landscapes. We would try to maintain or restore old growth in amounts similar to those believed to occur as a result of natural processes.	Some practices undertaken to maintain long-term site productivity and stand health may also promote biodiversity; however, we would not normally engage in practices with the expressed purpose of promoting biodiversity. Old growth would not be protected, except where the trust was compensated, or where necessary to address site-specific issues.	Some practices undertaken to maintain long-term site productivity and stand health may also promote biodiversity; however, we would not normally engage in practices with the expressed purpose of promoting biodiversity. Old growth would not be protected, except where the trust was compensated, or where necessary to address site-specific issues.	We may engage in practices designed to promote biodiversity in order to support income opportunities related to wildlife and recreation. Old growth would be maintained or restored in at least half the amounts that would be expected to occur on state lands under natural processes in similar forest types.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
TRUST MANAGEMENT POLICY Public opinion and understanding of DSL's trust mandate varies. Some people believe the trust mandate should be strictly interpreted and environmental protection measures beyond what are legally required should not interfere with trust revenue production. They believe the environment can be adequately protected with minimal impact on trust revenue while also contributing jobs and a tax base to the economy. Others believe that environmental protection must come before trust income. They think DSL should reduce timber harvests to compensate for activities of other landowners and past harvest practices. Multiple use should be emphasized and maximum trust income would result over the long term by keeping management options varied and open.	We would accept the traditional belief that the best way to produce long- term trust income is to manage lands for timber production while meeting Department standards for environmental protection. Timber would be our primary income source. We would consider outside proposals for other income- producing uses, but we would rarely initiate such projects. We would accommodate low or non-income producing uses to the degree that they were compatible with timber management. Decisions on short- or long- term values and future land uses would be made on a case-by-case basis. We would view our obligation to local economies as providing a steady timber supply while maintaining aesthetic, recreational and environmental quality.	We would assume that the best way to produce long-term income for the trust would be to manage intensively for healthy and biologically diverse forests. This would provide for sustained income from both timber and a variety of other potential uses. It would also help maintain stable trust income in the face of uncertainty regarding future resource values. Land use decisions would promote diversity as a means to enhance long-term income through projects that also yielded short-term income. We would view our obligation to local economies as one of maintaining a healthy, diverse forest that yielded a steady stream of timber and other marketable outputs, while also maintaining aesthetic, recreational, and environmental quality.	We would assume that wildland values would be much higher in the future than they are now, so the best way to produce long- term income is to defer uses that prohibit the forest ecosystem from evolving naturally. The value of undisturbed natural forest environments would be so great that the short-term income loss would be less than the long-term gain. We would emphasize modest levels of low impact uses to generate short-term income while managing for long- term ecosystem maintenance. Our obligation to local economies would be seen as one of providing long-term stability, a pleasant living environment and a wide range of future options.	We would assume the best way to produce long-term income for the trust would be to allow market conditions to drive management of state forest lands. We would inventory our resources and actively market the best combination of income producing uses. Relying on a diversified mix of resources to produce income would allow DSL to take advantage of market conditions and changing resource values. Decisions on short- and long-term values and future land uses would be made on an economic basis with an emphasis on income production. Our obligation to local economies would be viewed as one of providing maximum long-term income to the trust for the support of schools.	We would assume that the best way to produce long term trust income would be to manage lands for timber production while meeting Department standards for environmental protection. We would actively market timber as our primary income-producing activity. We would consider proposals for other uses, and accommodate low- or non-income-producing uses when they were compatible with timber management. Decisions on short- or long-term values and future land uses would be made on a case-by-case basis, with emphasis on long-term timber values. We would view our obligation to local economies as one of providing a steady timber supply to local processing facilities.	The best way to produce long-term income for the trust would be to manage state forest lands primarily for wildlife and recreational values. Income-generating activities that utilized wildlife and recreational resources would be actively marketed. Timber management activities would supplement trust income when compatible with our recreational and wildlife management goals. Decision on long- and short-term values and future land uses would be made on a case-by-case basis, with emphasis on long-term recreation and wildlife values. Our obligation to local economies would be viewed as one of providing aesthetic, recreational and wildlife values in a manner that produced trust revenue for the support of local schools.

ISSUES	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
RECREATIONAL OPPORTUNITIES There is broad public interest in maintaining a variety of recreational opportunities on state land. Some people advocate a form of user fee for recreation in addition to hunting and fishing on state land. Others believe that non-consumptive recreational uses should be free. There are opinions that recreational uses could generate substantial income to the trust if those values were marketed. Some people believe that forest practices may render state lands less desirable for recreational opportunities, and criteria should be developed to determine valuable recreational sites.	General recreational use (currently defined as non-motorized hunting, fishing, hiking, and bird watching) would be allowed on legally accessible lands with the purchase of a Recreational Use License. Cabinsites would continue to be leased. New cabinsite development would be minimal and only as workload allowed. Outside proposals to develop recreational sites would be considered but would receive a relatively low priority.	General recreational use (currently defined as non-motorized hunting, fishing, hiking, and bird watching) would be allowed on legally accessible lands with the purchase of a Recreational Use License. We would develop recreation uses compatible with maintenance of healthy ecosystems. Cabinsites would continue to be leased and new ones developed where appropriate. We would develop recreation sites if they were compatible with maintenance of a healthy ecosystem.	General recreational use (currently defined as non-motorized hunting, fishing, hiking, and bird watching) would be allowed on legally accessible lands with the purchase of a Recreational Use License. We would promote minimum impact recreation developments that augmented use of the natural ecosystem. Low impact dispersed, recreational uses would be encouraged. Highly-developed recreation sites, such as ski areas, would be discouraged except in areas already unsuitable for restoration of natural conditions. Existing cabinsites would be leased; however, new cabinsite development would only be considered in areas already unsuitable for restoration of natural conditions.	General recreational use (currently defined as non-motorized hunting, fishing, hiking, and bird watching) would be allowed on most legally accessible lands with the purchase of a Recreational Use License. However, some high valued sites could be offered for exclusive hunting, fishing, or other recreational leases. We would propose to increase the uses requiring a RUL and propose that the fees reflect market value. We would actively promote and develop recreational uses on state lands where those uses could generate income to the trust. Some lands would be managed primarily for recreational use where that income potential is greatest. Cabinsites would continue to be leased and new ones developed where appropriate.	General recreational use (currently defined as non-motorized hunting, fishing, hiking, and bird watching) would be allowed on legally accessible lands with the purchase of a Recreational Use License. Cabinsites would continue to be leased. New cabinsite development would be minimal and only as workload allowed. Outside proposals to develop recreational sites would be considered but would receive a relatively low priority.	Income generating recreation and wildlife management would be the primary focus of DSL's forest land management program. State lands with wildlife and recreational income potential would be reclassified and managed for that use. General recreational use would be allowed on many state lands. However, some high valued sites could be offered for exclusive hunting, fishing, or other recreation leases. Cabinsites would continue to be leased and new ones developed where appropriate.

SCENARIOS

In order to develop our assessment of the projected environmental effects of each alternative, we created hypothetical scenarios for timber harvest, grazing levels, recreational use, and road density. These scenarios were developed for the purpose of providing some tangible basis for our resource and economics effects assessments. They are not accomplishment targets. They are simply estimates of probable ranges of activity, given the management philosophy we would adopt under each alternative. Figures II-ALT1 through II-ALT4 below show the estimates of harvest levels, grazing levels, exclusive recreational lease percentages, and road densities that we developed prior to our effects analysis. Appendix SCN details our development of these scenarios. More information on the development of our recreation use estimates is also found in Appendix ECN.

Figure II-ALT1
ESTIMATED RANGE OF TIMBER HARVEST LEVELS FOR EFFECTS ASSESSMENT PURPOSES[1] (MMBF)

	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
HIGH	40	35	10	45	55	20
LOW	20	15	5	15	35	10

Figure II-ALT2
ESTIMATED LEASED/LICENSED AUMS FOR EFFECTS ASSESSMENT PURPOSES[2]

	AUMS ON FORESTED GRAZING LAND	AUMS ON CLASSIFIED FOREST LAND	TOTAL
ALPHA	10,822	15,594	26,776
BETA	10,822	10,370	21,192
GAMMA	10,822	7,977	18,799
DELTA	8,658	9,752	18,230
EPSILON	10,822	11,168	21,990
ZETA	8,658	9,752	18,230

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1 An explanation of the development of our timber scenarios can be found in Appendix SCN, starting on page 10.

2 An explanation of the development of our grazing scenarios can be found in Appendix SCN, starting on page 1.

Figure II-ALT3
ESTIMATED PERCENTAGE OF STATE FOREST ACRES OFFERED FOR EXCLUSIVE LEASING FOR EFFECTS ASSESSMENT PURPOSES[3]

ALTERNATIVE	PERCENT	REASONING
ALPHA	10	Based on current levels and alternative philosophy.
BETA	15	Slightly higher priority placed on recreation uses compatible with healthy ecosystems.
GAMMA	20	Promotion of low-impact dispersed recreation use.
DELTA	30	Active promotion of high-value opportunities which may include dispersed recreation.
EPSILON	10	Low priority. Must not interfere with timber management.
ZETA	70	Active promotion of high-value wildlife and recreation opportunities.

[3] An explanation of the development of our recreation scenarios can be found in Appendix SCN, starting on page 7, and in Appendix ECN, starting on page 7.

Figure II-ALT4
ESTIMATED ROAD DENSITIES FOR EFFECTS ASSESSMENT PURPOSES[4]
YEAR 2020

	NWLO		SWLO		CLO		SLO,ELO,NELO		TOTAL	
ALTERNATIVE	Tot	Open	Tot	Open	Tot	Open	Tot	Open	Tot	Open
EXISTING	2.7	1.4	2.4	0.6	1.1	0.2	1.1	0.2	2.0	0.8
ALPHA										
High	4.1	2.1	3.6	0.9	1.5	0.2	1.8	0.4	3.0	1.2
Low	3.4	1.7	3.0	0.8	1.3	0.2	1.4	0.3	2.5	1.0
BETA										
High	3.7	1.4	3.3	0.6	1.3	0.1	1.6	0.2	2.8	0.8
Low	3.1	1.2	2.7	0.5	1.2	0.1	1.3	0.2	2.3	0.7
GAMMA										
High	2.9	0.9	2.6	0.4	1.2	0.1	1.2	0.1	2.1	0.5
Low	2.8	0.8	2.4	0.4	1.1	0.1	1.2	0.1	2.0	0.5
DELTA										
High	4.4	2.2	3.8	1.0	1.5	0.2	1.8	0.4	3.2	1.3
Low	3.2	1.6	2.8	0.7	1.2	0.2	1.4	0.3	2.4	1.0
EPSILON										
High	4.6	2.3	4.0	1.0	1.6	0.2	2.0	0.4	3.3	1.3
Low	3.9	2.0	3.4	0.9	1.4	0.2	1.7	0.3	2.9	1.1
ZETA										
High	3.3	1.2	3.1	0.6	1.3	0.1	1.3	0.2	2.5	0.7
Low	3.0	1.1	2.6	0.5	1.2	0.1	1.3	0.2	2.2	0.7

STRUCTURE OF OUR ANALYSIS

We divided our analysis into two major parts. The first part, Physical and Biological Environment, includes forest soil, water, air, vegetation, wildlife, fish, historical and archaeological sites, and the visual environment. The second part, Financial and Administrative Environment, includes the administrative organization and the economic contributions of DSL's Forest Management Division.

The first part of our analysis examined the existing environment and described its current condition. Next we predicted the effects of each alternative by estimating its impact on two or more descriptors that we used to measure changes expected to result from the proposed management activities. Each part has its own descriptors. For example, some of the descriptors used in the vegetation analysis include forest type, stand age, and old growth amounts, while descriptors for the fisheries analysis included stream temperature and sediment levels.

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[4] An explanation of the development of our road density scenario can be found in Appendix SCN, starting on page 20.

ENVIRONMENTAL CONSEQUENCES: CONCLUSIONS OF OUR ANALYSIS

The conclusions of our draft environmental impact statement are too complex to be completely summarized here. We can state some of the general results of the analysis for each alternative, however. This summary will focus on three factors in the analysis: (1) the predicted impact of the alternative on forest health, defined as the trend toward historic conditions in forest types, stocking levels, old-growth features, and patch characteristics; (2) its likely impact on other elements of the biological and physical environment; and (3) the Net Present Monetary Value (NPV) of each alternative as we calculated it.

Together, these three factors, forest health, environmental effects, and net present value, describe the predicted effects of each alternative in a way that balances the two parts of the trust mandate: to provide ongoing funds to the common schools, and to care for the trust resource over the long term.

EFFECTS OF ALPHA

Alpha is not predicted to have a net beneficial impact on any component of the physical and biological environment, including forest health. Its projected NPV is the third highest, following Epsilon and Delta.

EFFECTS OF BETA

We predict Beta would be the most beneficial alternative for forest health, but only at the high end of its harvest level scenario. Beta's expected impact on other biological and physical resources is less than Alpha's, Epsilon's and Delta's, but greater than Gamma's and Zeta's. Projected NPV is ranked fourth, following Epsilon, Delta, and Alpha.

EFFECTS OF GAMMA

We expect Gamma to offer beneficial conditions for all biological and physical resources except forest vegetation. Its low harvest levels, combined with continued wildfire suppression, would create conditions that could cause forest health to decline further from historical conditions. Gamma has the lowest NPV of any alternative.

EFFECTS OF DELTA

Delta is expected to have the second highest NPV. We also predict it would have a somewhat beneficial impact on forest health, depending on harvest levels and the mix of activities under this market-driven alternative. It also has the potential for more adverse impacts on other biological and physical elements than any alternative but Epsilon, again depending on the management program that develops.

EFFECTS OF EPSILON

Epsilon offers the highest NPV by far of any alternative, projected at nearly 50 percent higher than its closest competitor. It also has the potential to have a net beneficial effect on forest health. It is likely to have some degree of adverse impact on the other biological and physical components, however.

EFFECTS OF ZETA

Our analysis indicates that Zeta would have little positive effect on forest health, if any. Its impact on other biological/physical components would depend to some extent on their value for recreation and wildlife activities; some would benefit, others would not. Its NPV is the second lowest.

PREFERRED ALTERNATIVE

The Department's administrative rules implementing the Montana Environmental Policy Act require that we identify our preferred alternative if we have one. In this case we do not have a single preferred alternative. The interdisciplinary planning team has evaluated each of the alternatives in terms of these three selection criteria:

1) Monetary return to the school trust.
2) Long term health of our forest

resource.
3) Effect on the biological and physical environment.

It was the general opinion of the planning team that two of the alternatives, Gamma and Zeta, are seriously deficient according to one or more of the criteria above. The remaining four alternatives, Alpha, Beta, Delta, and Epsilon, do satisfy all of the criteria to varying degrees. Of these four, Beta, Delta, and Epsilon are preferred.

SUMMARY OF ENVIRONMENTAL EFFECTS

The table on the following pages presents a concise summary of the environmental, administrative, and economic consequences we would expect with implementation of each alternative. This table can not be fully understood by itself; it is simply a quick way of giving a general idea how the alternatives compare on various important points. The assumptions, analysis procedures, and discussions leading to this brief summary are presented in Chapter IV of the complete Draft Environmental Impact Statement.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
FOREST SOILS						
Availability of Soil Nutrients	Maintain 80%	Maintain 90%	Maintain 90%	Maintain 80%	Maintain 80%	Maintain 90%
Accelerated erosion/slope stability	slight increase	slight decrease	decrease	slight increase	increase	decrease
Soil compaction and displacement	Keep impacts to less than 20% of site	Keep impacts to less than 15% of site	Keep impacts to less than 15% of site	Keep impacts to less than 20% of site	Keep impacts to less than 20% of site	Keep impacts to less than 15% of site
WATERSHED Impact Rating: Low Number = Less Adverse Impact						
Sediment and Nutrient Loading Risk[5]	19.5	13.5	4.0	16.0	22.5	8.5

5 Lower number means a lower overall risk of sediment and nutrient loading impacts. This number is different than the sediment and nutrient loading risk in the Fisheries summary because the latter used a percentage weighting to combine the effects of its three descriptors. See Appendix FSH - Fisheries for a complete description of the methodology used to develop the Fisheries impacts rankings.

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
AIR QUALITY						
Particulate from Wildfires: (Deviation from Current Level)	Slight Increase to Slight Decrease	Slight Increase to Slight Decrease	Increase	Slight Increase to Slight Decrease	Slight Increase to Slight Decrease	Slight Increase
Particulate from Prescribed Burning: (Hi-Lo range, % of 1982-91 avg.)	60-120%	45-105%	15-30%	45-135%	105-165%	30-60%

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA

FOREST VEGETATION

Symbols indicate predicted change from present levels:
+ Increase
- Decrease
= Little Change
Multiple + and - Larger magnitude changes.
+/-, =/+, =/- Predicted Changes Vary Depending on Harvest Levels or Other Factors.

Stand Size Classes: Nonstocked: Seed/sap: Poletimber: Sawtimber:	 +/- + -- +	 +/- +/- -- +	 - - -- ++	 +/- +/- -- =/+	 +/- + -- =	 - +/- -- ++
Stand Age Distribution: Young: Immature: Mature: Older:	 + -- ++ +	 +/- -- ++ ++	 - -- ++ +++	 =/+ -- ++ +	 ++ -- ++ +/-	 +/- -- ++ ++
Forest Types: (Net Shift Toward Earlier- vs. Later-Successional Species.)	Either direction, depending on harvest level and ecological group.	Either direction, depending on harvest level.	Later-successional.	Either direction, depending on harvest level.	Earlier-successional.	Later successional.
Stocking Levels: (Overall Trend)	+	+/-	++	+/-	+/-	+

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
Old Growth: Net Change:	+/-	=/+	+	+/-	-	+
Potential for Long-Term Replacement:	Low/Moderate	Moderate/High	Low	Low/Moderate	Moderate	Low/Moderate
Snag Abundance:						
Small Snags:	=/+	+/-	+	=/+	-	+
Large Snags:	=/-	=/+	+	=/-	-	+
Patch Characteristics--Level of Variation Between:						
Small Patches:	-	+	-	-	-	+/-
Med. Patches:	+	+/-	-	+/-	+	-
Large Patches:	-	+/-	+/-	+/-	-	+/-
Cumulative Effects (Forest Health): Trend Toward (+) or Away From (-) Historic Conditions in:						
Forest Types:	+/-	+/-	-	+/-	+	-
Stocking:	-	+/-	-	+/-	+/-	-
Old-Growth Features:	-	=/+	+	=/-	-	+
Patch Characteristics:	--	=/+	-	--	--	=/-

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
PLANT SPECIES OF SPECIAL CONCERN						
Mechanical Disturbances: Level of Impact (Low Number = Less Impact)	4	3	1	5	6	2
Exotic Species Infringement: Risk of Spread	moderate - high	low - moderate	low	moderate	high	low - moderate
Grazing Levels (Low Number = Less Grazing)	6	4	1	3	5	2
Risk of Loss or Decline: Rank Order (Low Number = Less Risk)	5	3	1	4	6	2

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
NOXIOUS WEEDS						
Area of Disturbance Associated with Land Management Activities (Low Number = Less Disturbance)	5	4	1	3	6	2
Priority of Weed Control	low - moderate	high	high	low - moderate	low	moderate - high
Risk of Spread: Rank Order (Low Number = Less Risk)	5	3	1	4	6	2

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
WILDLIFE						
Number of Species Expected to be Positively Affected by Changes in:						
Successional Stages:	30	30	35	30	24	36
Forest Type:	18	18	11	0	3	11
Stocking Level:	12	0	12	0	0	12
Snag Abundance:	52	27	79	52	0	79
Woody Debris:	0	64	64	0	0	64
Riparian Condition						
W. of Divide:	0	275	275	275	275	275
E. of Divide:	0	0	0	0	0	0
Recreation Use:	0	12	12	0	0	8
Road Density:	0	33	200	0	0	62
Number of Species Expected to be Adversely Affected by Changes in:						
Successional Stages:	5	5	37	5	5	21
Forest Type:	28	28	37	27	29	37
Stocking Levels:	33	28	33	0	0	33
Snag Numbers:	27	0	0	27	79	0
Woody Debris:	0	0	0	0	64	0
Riparian Condition						
W. of Divide:	275	0	0	0	0	0
E. of Divide:	296	296	296	296	296	296
Recreation Use:	33	21	21	33	33	25
Road Density:	200	0	0	138	200	0

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
FISHERIES						
Impact Rating: Low Number = Less Adverse Impact						
Sediment and Nutrient Loading	7.8	5.4	1.6	6.4	9.0	3.4
Large Organic Debris	4.4	3.2	1.2	6.6	6.6	3.2
Water Temperature	2.6	1.9	0.6	2.7	3.2	1.6
ADMINISTRATIVE ORGANIZATION						
Change in FTE (Current = 77.36)						
Overall	+10.5	+15.5	-22.5	+13.5	+21.5	-2.5
By Program						
Forest Product Sales	No Change	No Change	-25.0	No Change	+8.0	-18.0
State Lands Administration	+4.5	+5.5	+2.5	+6.0	+2.5	+8.0
Forest Improvement	+1.5	+3.5	-10.0	No Change	+5.5	No Change
Inventory	+1.5	+1.5	No Change	+1.5	+3.0	+1.5
Resource Management	+3.0	+5.0	+10.0	+8.0	+3.0	+6.0

CONSEQUENCE	ALPHA	BETA	GAMMA	DELTA	EPSILON	ZETA
ECONOMICS						
Approx. Share of Total School Funding: (%)	3.5	3.1	0.9	4.0	4.7	2.1
Net Present Value (High-Low Average in $1,000)						
Baseline Prices	71,550	56,560	7,229	73,303	112,519	34,987
Highest Prices	90,644	72,524	12,238	92,396	141,003	44,690
NPV Plus Remaining Timber Asset Value (High-Low Average in $1,000)						
Baseline Prices	377,414	376,981	378,600	379,167	374,712	384,522
Highest Prices	521,865	524,268	535,812	523,617	510,654	537,480
Share of State Totals						
Jobs Supported: (High-Low Average %)	0.32	0.30	0.12	0.34	0.45	0.22
Incomes Generated: (High-Low Average %)	0.40	0.35	0.13	0.41	0.58	0.24

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